

WHAT IS CLAIMED IS:

1. A scrub cleaning device comprising:

two planar scrubbers;

5 means for supporting the two planar scrubbers so that scrub surfaces are disposed opposite to each other;

means for rotating the planar scrubber around a rotation shaft vertical to the planar scrubber; and

a guide member disposed so that a substrate held  
10 between the two opposite scrubbers may be conveyed in the rotation direction of the scrubber,

wherein the substrate held between said two opposite scrubbers is conveyed in the scrubber rotation direction by the rotation of the scrubber, and rotated by a friction  
15 force generated by abutment on said guide member, so that the substrate is scrubbed/cleaned.

2. A scrub cleaning device comprising:

a scrub pad comprising two annular plate scrubbers,  
20 and a wheel for supporting the inner peripheral surface of the annular plate scrubber and the surface opposite a scrub surface so that the scrub surfaces of said two annular plate scrubbers fit each other, and for rotating the scrubber

around the center shaft of the annular plate scrubber; and

25 a guide member disposed opposite to the wheel on the inner peripheral surface side of the annular plate scrubber and disposed along the outer periphery of the scrub pad so

that a substrate may be conveyed in the rotation direction of said scrub pad,

wherein the substrate held between said two opposite scrubbers is conveyed in the rotation direction of the scrubber between the wheel on the inner peripheral surface side of the annular plate scrubber and the guide member by the rotation of the scrub pad, and rotated by a friction force generated by abutment on said guide member, so that the substrate is scrubbed/cleaned.

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3. A scrub cleaning device comprising:

a substrate cleaning section, provided with means for moving a scrubber while at least a part of a substrate is held between two opposite scrubbers, and conveying the substrate in the movement direction of the scrubber, and friction generation means, disposed along the conveyance direction of the substrate, for abutting on the conveyed substrate to generate a friction, for conveying and scrubbing/cleaning the substrate when the substrate is conveyed and rotated by a friction force generated by abutment of the substrate on the friction generation means;

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a substrate inlet section for conveying the substrate into said substrate cleaning section; and

a substrate outlet section for conveying the substrate from said substrate cleaning section.

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4. A scrub cleaning device comprising:

a pair of scrubbers which are rotatably supported by  
and rotate driven by a rotation driving means;

a substrate inlet section for conveying a substrate  
prior to cleaning into a gap between the pair of scrubbers;

5 a substrate cleaning section for cleaning the  
substrate transferred from the substrate inlet section with  
a cleaning liquid supplied from a cleaning liquid supply  
means;

10 a substrate outlet section for discharging the  
cleaned substrate transferred from the substrate cleaning  
section; and

a conveyance guiding section for conveying the  
substrate in cooperation with the scrubbers from the  
substrate inlet section to the substrate cleaning section,  
15 and from the substrate cleaning section to the substrate  
outlet section,

wherein the substrate cleaning section further  
comprises a resistant force supply means for supplying a  
resistant force to resist against a force in a conveyance  
20 direction provided to the substrate by the scrubbers, so  
that the substrate is scrubbed/cleaned by a differential  
peripheral speed between the substrate and the scrubbers  
generated by the resistant force supply means.

25 5. The scrub cleaning device according to claim 3  
or 4, wherein a sensor for confirming the presence/absence  
of the substrate is disposed on at least one of the

substrate cleaning section, the substrate introducing section and the substrate discharging section.

5 6. The scrub cleaning device according to any one of claims 1 to 5, further comprising stop means for abutting on the substrate conveyed in the rotation direction of the scrubber to temporarily stop the conveyance of the substrate, and forcibly performing the scrub cleaning of the substrate.

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7. The scrub cleaning device according to claim 6, wherein a sensor for confirming the presence/absence of the substrate is disposed at a position where the conveyance of the substrate is temporarily stopped.

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8. A scrub cleaning device comprising:

a plurality of cleaning stations comprising the constitution according to any one of claims 1 to 7; and

20 a conveyance mechanism for conveying a substrate cleaned in the cleaning station to the next cleaning station in said plurality of cleaning stations.

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9. The scrub cleaning device according to claim 8 wherein said conveyance mechanism comprises a guide member for connecting the scrubbers of said plurality of cleaning stations to one another.

10. The scrub cleaning device according to claim 8 wherein said conveyance mechanism comprises a guide member for connecting the scrubbers of said plurality of cleaning stations to one another, and a scrub roller for holding the substrate along the guide member from opposite sides and conveying the substrate.

11. The scrub cleaning device according to any one of claims 1 to 10, further comprising cleaning liquid supply means for supplying a cleaning liquid to at least one of the scrubber and the substrate held between two scrubbers.

12. The scrub cleaning device according to any one of claims 1 to 11, comprising a vertically disposed device for holding the vertically disposed substrate from opposite sides between two vertically disposed scrubbers.

13. The scrub cleaning device according to any one of claims 1 to 12 wherein said substrate is a glass substrate for an information recording medium.

14. A scrub cleaning method comprising the steps of: rotating a scrubber while a substrate is held between two opposite planar scrubbers; conveying the substrate in the rotation direction of the scrubber; and generating a peripheral speed difference between the substrate and the scrubber by rotation of the scrubber to perform the scrub

cleaning of the substrate.

15. The scrub cleaning method according to claim  
14, further comprising the step of stopping the substrate  
5 conveyed by the scrubber in a predetermined position, and  
performing the scrub cleaning of the substrate.

16. The scrub cleaning method according to claim 14  
or 15, comprising a substrate cleaning section for  
10 performing the scrub cleaning of the substrate, a substrate  
inlet section for introducing the substrate into said  
substrate cleaning section, and a substrate outlet section  
for discharging the substrate from said substrate cleaning  
section, wherein said substrate is conveyed from the  
15 substrate inlet section to the substrate cleaning section,  
and from the substrate cleaning section to the substrate  
outlet section in this order.

17. The scrub cleaning method according to claim  
20 16, wherein a sensor for confirming the presence/absence of  
the substrate is disposed in at least the substrate cleaning  
section, and the sensor confirms that any substrate is not  
present in the substrate cleaning section when the plurality  
of substrates are subjected to the scrub cleaning, and the  
25 substrates are then conveyed from the substrate inlet  
section to the substrate cleaning section.

18. A manufacturing method of an information  
recording medium which comprises the steps of subjecting a  
substrate for an information recording medium to scrub  
cleaning, and then forming at least a recording layer on the  
5 substrate, wherein the scrub cleaning method described in  
any one of claims 14 to 17 is carried out.

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